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08/889,881 3 July 1997 (03.07.97) US

(71) Applicant: SILICON WIRELESS LIMITED [US/US]; 2025 Garcia Avenue, Mountain View, CA 94043 (US).

(72) Inventors: WALLERIUS, John, Walker; 4938 Wheeler Drive, Fremont, CA 94538 (US). WALTERS, Andrews, John; 2000 California Street #15, Mountain View, CA 94040 (US). VASTANO, John, Andrew; 3431 Rambow Drive, Palot Alto, CA 94306 (US). UYEHARA, Lance, Kazumi; 1026 Del Cambre Drive, San Jose, CA 95129 (US).

(74) Agents: LOVEJOY, David, E. et al.; Fliesler, Dubb, Meyer & Lovejoy LLP, Suite 400, Four Embarcadero Center, San Francisco, CA 94111-4156 (US).

(81) Designated States: AL, AM, AT, AU, AZ, BA, BB, BG, BR, BY, CA, CH, CN, CU, CZ, DE, DK, EE, ES, FI, GB, GE, GH, GM, GW, HU, ID, IL, IS, JP, KE, KG, KP, KR, KZ, LC, LK, LR, LS, LT, LU, LV, MD, MG, MK, MN, MW, MX, NO, NZ, PL, PT, RO, RU, SD, SE, SG, SI, SK, SL, TJ, TM, TR, TT, UA, UG, UZ, VN, YU, ZW, ARIPO patent (GH, GM, KE, LS, MW, SD, SZ, UG, ZW), Eurasian patent (AM, AZ, BY, KG, KZ, MD, RU, TJ, TM), European patent (AT, BE, CH, CY, DE, DK, ES, FI, FR, GB, GR, IE, IT, LU, MC, NL, PT, SE), OAPI patent (BF, BJ, CF, CG, CI, CM, GA, GN, ML, MR, NE, SN, TD, TG).

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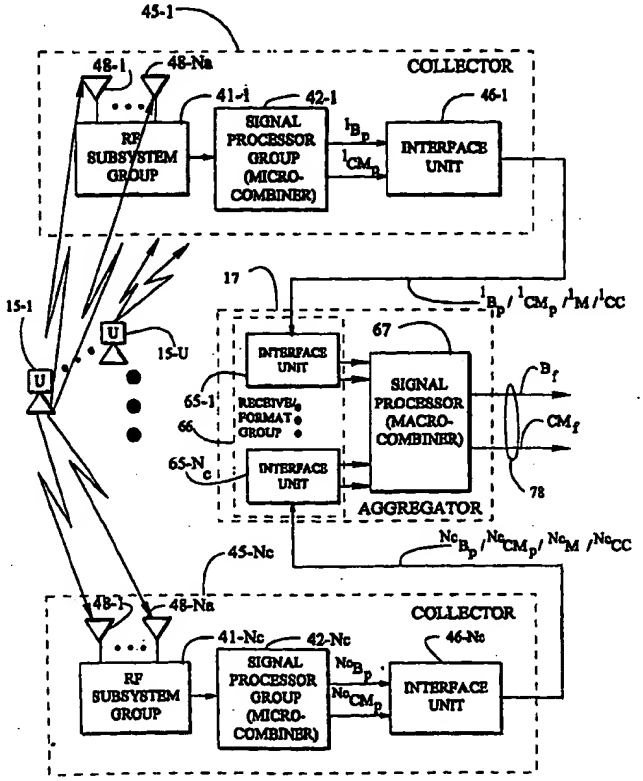
14 May 1999 (14.05.99)

(54) Title: METHOD AND APPARATUS FOR WIRELESS COMMUNICATION EMPLOYING CONTROL FOR CONFIDENCE METRIC BANDWIDTH REDUCTION

(57) Abstract

A communication system having a plurality of forward channel communications and a plurality of corresponding reverse channel communications from and to a plurality of mobile users. A plurality of collectors are distributed at macro-diverse locations for receiving reverse channel signals from the users which are processed to yield one or more sequences of data bits as a burst and corresponding initial confidence metrics for each bit. The collectors forward these reverse channel signals including the data bits and corresponding processed confidence metrics to aggregators. The combining of multiple collector signals for the same user results in an output bit stream for the user with fewer bit errors. The system includes bandwidth control for minimizing backhaul bandwidth from collector to aggregator while maximizing signal quality.



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Inter ɔnal Application No
PCT/US 98/10816

A. CLASSIFICATION OF SUBJECT MATTER
IPC 6 H04B7/08 H04Q7/36

According to International Patent Classification (IPC) or to both national classification and IPC

B. FIELDS SEARCHED

Minimum documentation searched (classification system followed by classification symbols)
IPC 6 H04B H04Q

Documentation searched other than minimum documentation to the extent that such documents are included in the fields searched

Electronic data base consulted during the international search (name of data base and, where practical, search terms used)

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[X] Further documents are listed in the continuation of box C.

[X] Patent family members are listed in annex.

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| Date of the actual completion of the international search | Date of mailing of the international search report |
|---|---|
| 15 March 1999 | 23/03/1999 |

| Name and mailing address of the ISA | Authorized officer |
|---|---|
| European Patent Office, P.B. 5818 Patentlaan 2<br>NL - 2280 HV Rijswijk<br>Tel. (+31-70) 340-2040, Tx. 31 651 epo nl,<br>Fax: (+31-70) 340-3016 | Lõpez Márquez, T |

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PCT/US 98/10816

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(71) Applicant: CELLULAR TELECOM, LTD. [US/US]; 460 East Middlefield Road, Mountain View, CA 94538 (US).

(72) Inventors: HOWARD, David, Amundson; 917 Sierra Vista #J, Mountain View, CA 94043 (US). SMITH, Bruce, Denis; 238 Oak Grove, Atherton, CA 94027 (US). COATES, Karen, Evelyn; 1562 Valley Crest Drive, San Jose, CA 95131 (US). VASTANO, John, Andrew; 3431 Rambow Drive, Palo Alto, CA 94306 (US).

(74) Agent: LOVEJOY, David, E.; Fliesler, Dubb, Meyer & Lovejoy, Suite 400, Four Embarcadero Center, San Francisco, CA 94111-4156 (US).

(81) Designated States: AL, AM, AT, AU, AZ, BB, BG, BR, BY, CA, CH, CN, CZ, DE, DK, EE, ES, FI, GB, GE, HU, IL, IS, JP, KE, KG, KP, KR, KZ, LK, LR, LS, LT, LU, LV, MD, MG, MK, MN, MW, MX, NO, NZ, PL, PT, RO, RU, SD, SE, SG, SI, SK, TJ, TM, TR, TT, UA, UG, UZ, VN, ARIPO patent (KE, LS, MW, SD, SZ, UG), Eurasian patent (AM, AZ, BY, KG, KZ, MD, RU, TJ, TM), European patent (AT, BE, CH, DE, DK, ES, FI, FR, GB, GR, IE, IT, LU, MC, NL, PT, SE), OAPI patent (BF, BJ, CF, CG, CI, CM, GA, GN, ML, MR, NE, SN, TD, TG).

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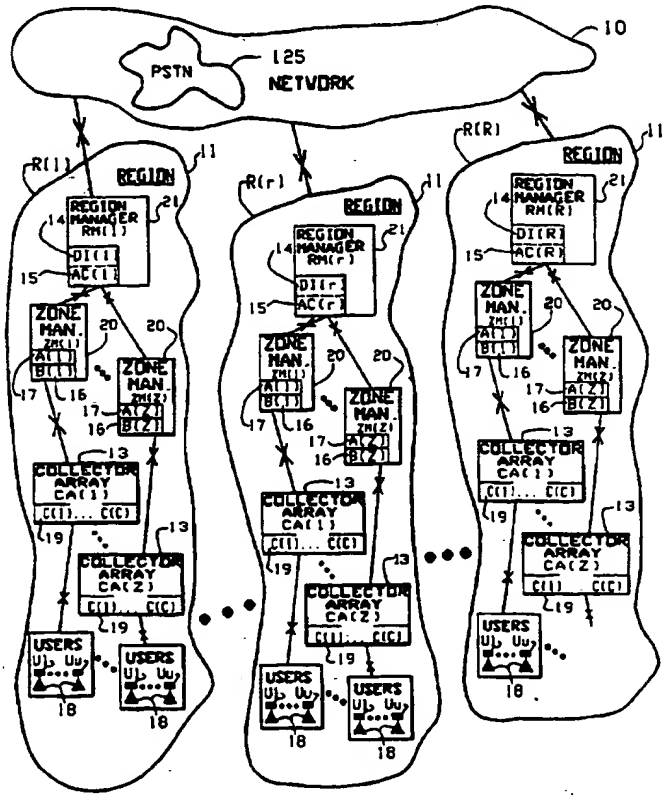
(88) Date of publication of the international search report:
29 May 1997 (29.05.97)

(54) Title: METHOD AND APPARATUS FOR WIRELESS COMMUNICATION EMPLOYING COLLECTOR ARRAYS

(57) Abstract

A cellular communications system that includes forward channel communications to users and corresponding reverse channel communications from mobile users. The users travel from one area to another area over one or more zones. The forward channel communications are broadcast directly to users in a broadcaster zone. The reverse channel communications from users are not returned directly but are first collected at locations arrayed over the broadcaster zone. After collection, the reverse channel communications are forward to complete the full duplex communications. The forward channel communications are point to multipoint while the reverse channel communications are multipoint to point. The communication system separately handles the point to multipoint forward path as a direct broadcast and the multipoint to point reverse path using multiple collection points. Since the forward and reverse paths are separately configured, the present invention optimizes both the forward and reverse paths.



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# INTERNATIONAL SEARCH REPORT

Inter mal Application No
PC1/US 96/17174

A. CLASSIFICATION OF SUBJECT MATTER
IPC 6 H04Q7/36

According to International Patent Classification (IPC) or to both national classification and IPC

B. FIELDS SEARCHED

Minimum documentation searched (classification system followed by classification symbols)
IPC 6 H04Q H04B

Documentation searched other than minimum documentation to the extent that such documents are included in the fields searched

Electronic data base consulted during the international search (name of data base and, where practical, search terms used)

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